

Education

- 2016 - present **Postdoctoral Scholar**
Epidemiology, School of Public Health
University of California, Berkeley
K99, National Institute on Drug Abuse
- 2014 - 2016 **Health and Society Scholar**
Robert Wood Johnson Foundation
University of California, San Francisco
University of California, Berkeley
Advisors: Jennifer Ahern, Maria Glymour, Mark van der Laan
- 2014 **Postdoctoral Fellow**
Department of Mental Health
Johns Hopkins School of Public Health, Baltimore, MD
Drug Dependence and Epidemiology
Advisor: Elizabeth Stuart
- 2010-2014 **Ph.D. Epidemiology**
Johns Hopkins University, Bloomberg School of Public Health
Concentration in Methods
Advisor: Thomas Glass
Thesis: Mental health in context: effect heterogeneity and mechanism in the relationship between neighborhood disadvantage and adolescent depression and anxiety.
- 2012-2013 **M.H.S. Biostatistics**
Johns Hopkins University, Bloomberg School of Public Health
Advisor: Elizabeth Stuart
Thesis: Implementation of methods to estimate population marginal treatment effects in the presence of non-randomized treatment assignment and informative selection from a population-based sample.
- 2007-2008 **M.P.H.**
Johns Hopkins University, Bloomberg School of Public Health
Capstone: Evaluation design for a study using community health workers to improve breastfeeding rates among adolescent African American women in East Baltimore.
- 2006 Graduate course in biostatistics
University of Pennsylvania
- 2001-2005 **B.S. Biochemistry**
University of Michigan
Highest honors
Thesis: Actin-regulatory proteins $p116^{RIP}$ and *LIMK2* interact with POSH.

Awards

2016	K99, National Institute on Drug Abuse
2014-2016	Robert Wood Johnson Foundation Health and Society Scholar
2014	Student Paper Award—American Statistical Association, Social Statistics/Government/ Survey Research Methods Sections
2012-2014	Sommer Scholar—Johns Hopkins School of Public Health
2010-2012	Intramural Research Training Award Fellow—National Institute of Mental Health
2008	Delta Omega Honor Society—Johns Hopkins School of Public Health

Publications

Published

- [1] K. E. Rudolph, N. M. Schmidt, R. Crowder, J. Galin, M. M. Glymour, J. Ahern, and T. L. Osypuk, “Composition or context: using transportability to understand drivers of site differences in a large-scale housing experiment,” *Epidemiology*, In Press, 2017.
- [2] K. E. Rudolph and E. A. Stuart, “Using sensitivity analyses for unobserved confounding to address covariate measurement error in propensity score methods,” *American Journal of Epidemiology*, In Press, 2017.
- [3] K. E. Rudolph and M. J. van der Laan, “Robust estimation of encouragement-design intervention effects transported across sites,” *Journal of the Royal Statistical Society Series B Statistical Methodology*, In press, 2016.
- [4] K. E. Rudolph, K. Colson, E. A. Stuart, and J. Ahern, “Optimally combining propensity score subclasses,” *Statistics in Medicine*, vol. 35, no. 27, pp. 4937–4947, 2016.
- [5] K. E. Rudolph, B. N. Sánchez, E. A. Stuart, B. Greenberg, K. Fujishiro, G. S. Wand, S. Shrager, T. Seeman, A. V. D. Roux, and S. H. Golden, “Job strain and the cortisol diurnal cycle in mesa: accounting for between-and within-day variability,” *American journal of epidemiology*, vol. 183, no. 5, pp. 497–506, 2016.
- [6] M. M. Glymour and K. E. Rudolph, “Causal inference challenges in social epidemiology: bias, specificity, and imagination,” *Social Science & Medicine*, vol. 166, no. 5, pp. 258–265, 2016.
- [7] H. Hong, K. E. Rudolph, and E. A. Stuart, “Bayesian approach for addressing differential covariate measurement error in propensity score methods,” *Psychometrika*, In press, 2016. DOI: 10.1007/s11336-016-9533-x.
- [8] K. E. Colson, K. E. Rudolph, S. C. Zimmerman, D. E. Goin, E. A. Stuart, M. van der Laan, and J. Ahern, “Optimizing matching and analysis combinations for estimating causal effects,” *Scientific reports*, vol. 6, 2016.
- [9] J. A. Casey, P. James, K. E. Rudolph, C.-D. Wu, and B. S. Schwartz, “Greenness and birth outcomes in a range of pennsylvania communities,” *International journal of environmental research and public health*, vol. 13, no. 3, p. 311, 2016.

- [10] J. M. Torres, C Alcantara, K. E. Rudolph, and E. A. Viruell-Fuentes, “Cross-border ties as sources of risk and resilience: do cross-border ties moderate the relationship between immigration-related stress and psychological distress for latino migrants in the us?” *Journal of health and social behavior*, vol. 57, no. 4, pp. 436–452, 2016.
- [11] K. E. Rudolph and W. W. Eaton, “Previous anxiety and depression as risk factors for early labour force exit,” *Journal of Epidemiology and Community Health*, vol. 70, no. 4, pp. 390–395, 2016.
- [12] K. E. Rudolph, E. A. Stuart, J. S. Vernick, and D. W. Webster, “Association between connecticut’s permit-to-purchase handgun law and homicides,” *American Journal of Public Health*, vol. 105, no. 8, e49–54, 2015.
- [13] D. Paksarian, K. E. Rudolph, J. P. He, and K. R. Merikangas, “School start time and adolescent sleep patterns: results from the u.s. national comorbidity surveyadolescent supplement,” *American Journal of Public Health*, vol. 105, no. 7, pp. 1351–1357, 2015.
- [14] Y. Webb-Vargas, K. E. Rudolph, D. Lenis, P. Murakami, and E. A. Stuart, “An imputation-based solution to using mismeasured covariates in propensity score analysis,” *Statistical Methods in Medical Research*, In press, 2015.
- [15] B. Hadley, K. E. Rudolph, M. Mogul, and D. F. Perry, “Providing home visiting to high-risk pregnant and postpartum families: the development and evaluation of the momobile program,” *Zero to Three*, vol. 35, no. 2, 40–48, 2014.
- [16] K. E. Rudolph, I. Diaz, M. Rosenblum, and E. A. Stuart, “Estimating population treatment effects from a survey sub-sample,” *American Journal of Epidemiology*, vol. 180, no. 7, pp. 737–748, 2014.
- [17] K. E. Rudolph, E. A. Stuart, T. A. Glass, and K. R. Merikangas, “Neighborhood disadvantage in context: the influence of urbanicity on the association between neighborhood disadvantage and adolescent emotional disorders,” *Social Psychiatry and Psychiatric Epidemiology*, vol. 49, no. 3, pp. 467–475, 2014.
- [18] K. E. Rudolph, W. Gary S, E. A. Stuart, T. A. Glass, A. H. Marques, R. Duncko, and K. R. Merikangas, “The association between cortisol and neighborhood disadvantage in a us population-based sample of adolescents,” *Health & Place*, vol. 25, pp. 68–77, 2014.
- [19] K. E. Rudolph, J. Lessler, R. M. Moloney, B. Kmush, and D. A. Cummings, “Incubation periods of mosquito-borne viral infections: a systematic review,” *The American Journal of Tropical Medicine and Hygiene*, vol. 90, no. 5, pp. 882–891, 2014.
- [20] K. E. Rudolph, T. A. Glass, R. M. Crum, and B. S. Schwartz, “Neighborhood psychosocial hazards and binge drinking among late middle-aged adults,” *Journal of Urban Health*, vol. 90, no. 5, pp. 970–982, 2013.
- [21] R. M. Lee, J. Lessler, R. A. Lee, K. E. Rudolph, N. G. Reich, T. M. Perl, and D. A. Cummings, “Incubation periods of viral gastroenteritis: a systematic review,” *BMC Infectious Diseases*, vol. 13, no. 1, p. 446, 2013.
- [22] A. S. Azman, K. E. Rudolph, D. A. Cummings, and J. Lessler, “The incubation period of cholera: a systematic review,” *Journal of Infection*, vol. 66, no. 5, pp. 432–438, 2013.

Under Review

1. Rudolph KE, Sofrygin O, Zheng W, van der Laan MJ. Robust and flexible estimation of data-dependent stochastic mediation effects: a proposed method and example in a randomized trial setting.
2. Ahern J, Matthay EC, Goin DE, Farkas K, Rudolph KE. Spikes in community violence increase deaths and hospital visits due to stress-responsive diseases.
3. Goin DE, Rudolph KE, Ahern J. Drought and crime in California.
4. Goin DE, Rudolph KE, Ahern J. Predictors of community firearm violence.
5. Kagawa RMC, Castillo-Carniglia A, Vernick JS, Webster D, Shev A, Crifasi C, Rudolph KE, Cerda M, Wintemute GJ. Repeal of Comprehensive Background Check Policies and Firearm Homicide.
6. Matthay EC, Galin J, Rudolph KE, Farkas K, Wintemute G, Ahern J. Gun shows and firearm deaths and injuries in California: a quasi-experimental study of within-state and interstate associations.
7. Vable AM, Kiang MV, Basu S, Rudolph KE, Kawachi I, Subramanian SV, Glymour MM. Military service and health disparities: late life pulmonary function among US military veterans.

Presentations and Posters (first author only)

- 2017 Rudolph KE, Sofrygin O, van der Laan MJ. Robust and flexible estimation of stochastic mediation effects: a proposed method and example in a randomized trial setting. Oral presentation at the Society for Epidemiologic Research Conference, Seattle, WA.
- 2016 Rudolph KE. Understanding site differences in the effects of the Moving to Opportunity Study on adolescent outcomes. Oral presentation at the Joint Statistical Meetings, Chicago, IL.
- 2016 Rudolph, KE. Contextual drivers of firearm violence. Oral presentation at the Society for Epidemiologic Research Conference, Miami, FL.
- 2016 Rudolph KE. Understanding site differences in the effects of the Moving to Opportunity Study on adolescent outcomes. Oral presentation at the Robert Wood Johnson Foundation Health & Society Scholars Conference, New Orleans, LA.
- 2015 Rudolph KE. Transportability in Encouragement-Design Interventions. Oral presentation at the Robert Wood Johnson Foundation Health & Society Scholars Conference, Chapel Hill, NC.
- 2015 Rudolph KE, van der Laan MJ. Transportability in Encouragement-Design Interventions. Poster at the Society for Prevention Research Conference, Washington, DC.
- 2015 Rudolph KE, Sanchez BN, Stuart EA, Greenberg B, Fujishiro K, Wand GS, Shrager S, Seeman T, Diez Roux AV, Golden SH. Association between job strain and aspects of the cortisol diurnal cycle: the Multi-Ethnic Study of Atherosclerosis. Poster at the Society for Epidemiologic Research Conference, Denver, CO.
- 2014 Rudolph KE, Diaz I, Rosenblum M, Stuart EA. Estimating population treatment effects from a survey sub-sample. Oral presentation as part of topic-contributed session Fresh Perspectives in Causal Inference II at the Joint Statistical Meetings, Boston, MA.
- 2013 Rudolph KE, Wand GS, Stuart EA, Glass TA, Marques AH, Duncko R, Merikangas KR. The association between cortisol characteristics and neighborhood disadvantage in a population-based sample of U.S. adolescents. Poster at the Society for Epidemiologic Research Conference, Boston, MA.
- 2012 Rudolph KE, Stuart EA, Glass TA, Merikangas, KR. Using propensity score subclassification to examine the association between neighborhood disadvantage and adolescent mental health. Poster at the Society for Epidemiologic Research Conference, Minneapolis, MN.
- 2012 Rudolph KE, Glass TA, Schwartz BS. Neighborhood psychosocial hazards and binge drinking among older adults. Poster at the Society for Epidemiologic Research Conference, Minneapolis, MN.
- 2010 Rudolph K, Gabor V, Morgan R. Environmental supports and barriers to physical activity in D.C. childcare centers. Oral presentation at the Annual American Public Health Association Conference, Denver, CO.

Invited Talks

- 2015 Guns, cities, and statistics: Accurate statistical methods to inform policies to prevent violence and risk behaviors, University of California, Davis, School of Medicine, Department of Emergency Medicine, Sacramento, CA.
- 2014 Neighborhood Disadvantage and Cortisol, Drexel School of Public Health, Department of Epidemiology and Biostatistics, Philadelphia, PA.

Campus Talks

- 2016 Synthetic control group approach for estimating policy effects, University of California, San Francisco, Methods for Evaluating Social Policy Effects on Health, San Francisco, CA.
- 2015 What works in Boston may not work in Los Angeles: Understanding site differences and generalizing effects from one site to another, University of California, Berkeley School of Education, the Berkeley Evaluation and Assessment Research Center, Berkeley, CA.
- 2015 Applying Targeted Maximum Likelihood Estimation, University of California, San Francisco, Doctoral Seminar in Epidemiology and Biostatistics, San Francisco, CA.
- 2015 Instrumental Variables, University of California, Berkeley School of Public Health, Advanced Epidemiology Seminar, Berkeley, CA.

Selected Press

The following articles were associated with:

Rudolph KE, Stuart EA, Vernick JS, Webster DW. Association between Connecticut's permit-to-purchase handgun law and homicides. *Am J Public Health*. 2015; 105(8):e49-54.

- The Washington Post: <http://www.washingtonpost.com/blogs/govbeat/wp/2015/06/12/gun-killings-fell-by-40-percent-after-connecticut-passed-this-law/>
- The New Yorker: <http://www.newyorker.com/news/daily-comment/an-honest-comedian-on-guns?intcid=mod-latest>
- CNN: <http://www.cnn.com/2015/06/12/us/gun-law-homicide-drop/>
- Newsweek: <http://www.newsweek.com/handgun-law-connecticut-helped-decrease-gun-homicides-342363>
- U.S. News and World Report: <http://health.usnews.com/health-news/articles/2015/06/11/tough-handgun-law-linked-to-lower-gun-related-murder-rate-in-connecticut>
- Reddit's front page: http://www.reddit.com/r/science/comments/39pazx/connecticuts_permit_to_purchase_law_in_effect_for/
- The Baltimore Sun: <http://www.baltimoresun.com/news/opinion/readersrespond/bs-ed-\handgun-licensing-20150611-story.html> and <http://www.baltimoresun.com/news/maryland/politics/blog/bs-md-van-hollen-gun-20150611-story.html>

- San Francisco Chronicle: <http://www.sfgate.com/news/article/Connecticut-gun-permit-law-prompts-federal-6321880.php>
- Philadelphia Inquirer: <http://www.philly.com/philly/blogs/attytood/And-then-theres-guns.html>
- WNPR: <http://wnpr.org/post/new-analysis-attempts-quantify-impact-handgun-regulations-state#stream/0>

Professional Experience

Research

- | | |
|-------------------|---|
| 08/2016 - present | Postdoctoral Scholar
Department of Epidemiology
University of California, Berkeley
K99 funded by NIDA |
| 09/2014 - 07/2016 | Health and Society Scholar
Robert Wood Johnson Foundation
University of California, San Francisco
University of California, Berkeley |
| 02/2014-08/2014 | Postdoctoral Fellow
Department of Mental Health
Johns Hopkins School of Public Health, Baltimore, MD
Drug Dependence and Epidemiology Training Program
Advised by Dr. Elizabeth Stuart |
| 04/2013-08/2014 | Statistical Consultant
Georgetown University, Washington, DC
Center for Child and Human Development
Partners for a Healthy Baby Evaluation |
| 09/2012-01/2013 | Graduate research assistant to Dr. Elizabeth Stuart
Department of Mental Health
Johns Hopkins School of Public Health, Baltimore, MD
Developed conference material on statistical methods for missing data, developed material for Causal Inference course. |
| 12/2010-06/2013 | Graduate research assistant to Drs. Derek Cummings and Justin Lessler
Department of Epidemiology
Johns Hopkins School of Public Health, Baltimore, MD
Performed systematic reviews of the incubation periods of multiple viruses. |

Teaching Experience

2013	Teaching assistant - Spatial Analysis and GIS I Department of Biostatistics Johns Hopkins School of Public Health, Baltimore, MD
2013	Teaching assistant - Spatial Analysis and GIS II Department of Biostatistics Johns Hopkins School of Public Health, Baltimore, MD
2011-2013	Teaching assistant - Fundamentals of Epidemiology and Biostatistics Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD
2012	Teaching assistant - Methodological Challenges in Epidemiological Research Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD
2012	Teaching assistant - Doctoral Seminar in Epidemiology Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD

Non-Academic

09/2010-12/2010

Consultant

Altarum Institute, Washington, DC

Designed program evaluations for the State of Michigan's Communities Putting Prevention to Work grant programs.

Conducted quantitative data analysis for several CDC-funded projects, including ACHIEVE and the State of Michigan's School Nutrition Standards grant program.

06/2008-08/2010

Policy Associate

Altarum Institute, Washington, DC

Project Management: Managed program evaluation projects contracted by the Health Resources and Services Administration (HRSA) of HHS.

Evaluation Design: Designed program evaluations for the Maternal and Child Health Bureaus Early Childhood Comprehensive Systems Initiative, Texas' Medicaid case management program, HRSA's Bureau of Health Professions' minority health professions grant program, and Michigan's Building Healthy Communities grant program.

Qualitative data analysis: Analyzed data obtained from focus groups, in-depth interviews, and data abstraction using NVivo qualitative analysis software.

Quantitative data analysis: Led teams in analysis of primary and secondary data using STATA and SAS statistical software.

Report writing: Co-authored several reports to HHS' Office of Women's Health, HRSA's Bureau of Health Professions and Bureau of Healthcare Systems, and the Maternal and Child Health Bureau.

08/2007-01/2008

Intern

Howard County Health Department, Columbia, MD

Developed policies for health care access program to provide affordable, comprehensive health care coverage for all Howard County residents.

01/2008

Field Worker

Johns Hopkins Center for American Indian Health, Albuquerque, NM

Field work as a Family Health Liaison for a teen mother health behavior intervention on Navajo and Apache reservations.

06/2005-06/2007

Staff Scientist

Merck & Co. Inc., West Point, PA

Supported demonstration and licensing of Varicella manufacturing facility.

Provided technical and biological support for Varicella processing.

Project and People Management: Led project to re-design sterility testing.

Professional Activities

Reviewer

2015-2017	Social Science & Medicine
2016-2017	Epidemiology
2015	Journal of Clinical Epidemiology
2015	Ethnicity and Health
2015	Epidemiology and Psychiatric Sciences
2014-2016	PLOS ONE
2014-2017	American Journal of Epidemiology
2014	Journal of Youth and Adolescence
2014	BMC Public Health
2014	Environment International
2013	Journal of Epidemiology and Community Health